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THESIS

IMPLEMENTING THE DEFENSE RESOURCE MANAGEMENT MODEL IN EMERGING DEMOCRACIES

by

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MODEL IN EMERGING DEMOCRACIES

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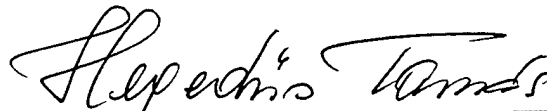
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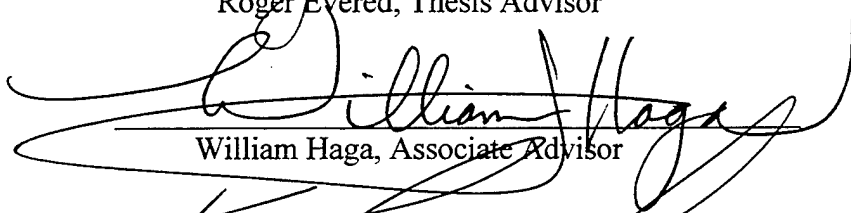
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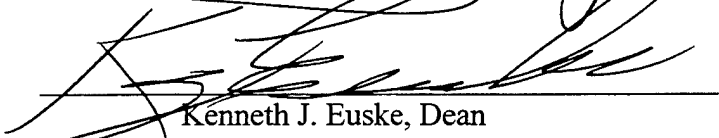
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ABSTRACT

This thesis examines the political, organizational and cultural barriers to the implementation of the U.S. Defense Resource Management Model (DRMM) decision support system by the Ministry of Defense in Hungary between 1995 and 2000. It surveys the heritage of the Warsaw Pact alliance on military planning in Hungary prior to 1989. A detailed description of the DRMM system is provided along with an implementation history of DRMM in Hungary. Factors in the implementation failure are examined and suggestions are offered for improving the management of software and systems implementation in the future.

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I. INTRODUCTION

A. BACKGROUND

In 1995 the Hungarian Defense Forces, as well as some other independent countries in Central and Eastern Europe, started to implement the Defense Resource Management Model (DRMM) developed especially for those countries by a U.S.DoD team. The DRMM is a universal tool, which can perform the following main functions:

- By using the data of existing forces, the DRMM can determine their capability
- Using a complex set data about the particular country, including geopolitical, political and economical factors and the estimated threat from the neighborhood, the DRMM can determine the required defense capabilities and size of the required forces
- DRMM can also provide the capability to analyze assets a comparison of assets and cost analyses

The initial implementation of the DRMM in Hungary began with U.S. assistance and a high level of cooperation and enthusiasm on both sides. A special Implementation Department was established at the Hungarian Ministry of Defense (MOD) with all the necessary facilities and equipment. There was a five-month training program for the personnel and also courses for high-ranking military and civilian officials. Yet even though the designers had offered theoretically excellent software, some difficulties emerged during the implementation process. Cooperation gradually slowed down and then stopped completely in 1997. The organization was abolished and the DRMM was transferred to a lower level department in the General Staff. In 1998, there was another attempt from the United States to implement the methodology and the tool in the ongoing reorganization of Hungarian Defense Forces. Unfortunately, meetings were formal and

could not resolve the problems. Since senior and middle management support was absent, the DRMM implementation team was disbanded in 2001 and the intent of using the tool for defense management vanished.

If defense resource management continues to operate in the old paper-based, manual way, the new democratic countries cannot comply with the requirements of NATO, and the Partnership for Peace initiatives. The decision-making process remains bureaucratic and inertial, which will negatively affect the realization of military projects and combat readiness. Furthermore, the significant U.S. financial aid to those countries will be spent inefficiently and the goals will not be reached.

Even though the designer group did an excellent job, the product has a somewhat synthetic way of approaching the military planning process. This thesis will investigate the possibilities for further improving the tool, especially regarding sensitivity to the local historical and cultural environment. On the other hand, the thesis will identify the misleading factors inside the environment of the implementation and will suggest ways to reduce the influence of those factors.

B. PURPOSE

The study supports the goals of NATO and the Partnership for Peace Initiative. The purpose of this thesis is to improve the efficiency of foreign aid directed at the reorganization of the armed forces in the emerging new democratic countries.

The study will use the implementation of the Defense Resource Management Model (DRMM) in the Hungarian Defense Forces as an example.

C. RESEARCH QUESTIONS

1. Primary Research Questions

- What difficulties emerged during the DRMM implementation process in Hungary?
- What were the reasons for these difficulties?
- How might they be avoided in future implementations?

2. Secondary Research Questions

- What is the purpose of using Information Technology for military resource management?
- What are the necessary conditions for implementation?
- What were the mistakes in the American and Hungarian approach to the DRMM implementation?
- What are the primary lessons learned?
- What are the recommendations for subsequent implementation of the DRMM?

D. METHODOLOGY

The author of this thesis was a member of the Hungarian DRMM implementation team. As a former team member, he has experimental data about the Hungarian implementation process.

In addition to personal experience, other sources are available such as interviewing former group members, and keeping in contact with the design group in Washington D.C.

The third source of the information is the official Web page of the design group. This page, besides providing an updated version of software, offers the annual reports of the member countries and their speeches of annual meetings.

The analyses will be conducted in three steps:

First, the goals of the designers need to be clarified as well as determined the need of willingness of the user to deploy the software.

Secondly, the discrepancies between the goals of designers and the needs of users must be identified.

Thirdly, those cases where the goals of designers and the needs of users were consistent need to be examined. Nevertheless the implementation still faced major obstacles. Using the Roberts' Organizational Systems Framework, the thesis explores the reasons of the unsuccessful outcome. If the strategic goals of the implementation do not meet the requirements of the users, or the users cannot accept the offered solution, the thesis provides a feasible suggestion to the designers.

E. ORGANIZATION OF THE THESIS

Chapter I introduces the reader with the background of the thesis. These chapter gives explanation of the Purpose and lists the primary and secondary Research Questions. At the end of this part the reader finds information about the methods and procedures used to conduct the thesis.

Chapter II gives an insight to the to the history of military planning process in Hungary and the challenge of reorganizing its armed forces.

Chapter III describes the emerged necessity of implementing the Information Technology and gives introduction to the Defense Resource Management Model (DRMM). Finally this chapter introduces the reader to the U.S.–Hungarian Cooperation for Implementing the DRMM

Chapter IV shows the different views and approaches to the implementation of the American design group and the Hungarian implementation team.

This chapter lists the difficulties and obstacles that emerged during the implementation process and also describes the Hungarian DRMM implementation process presently.

Chapter V gives analyses of the problem and shows, how does Information Technology affect organizations. Identifying the reasons and factors, which created the major obstacles, the chapter presents possible solutions to the problem.

Chapter VI summarizes the conclusions and lessons learned implementing the Defense Resource Management Model in the Hungarian Armed Forces. In this chapter the thesis suggests what should be done to avoid this situation in the future. At the end of the thesis Chapter VI gives summary of responses to the Research Questions.

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II. HISTORY OF HUNGARY WITH THE SOVIET UNION AND THE UNITED STATES

A. INTRODUCTION TO THE HISTORY OF MILITARY PLANNING PROCESS IN HUNGARY AND THE CHALLENGE OF REORGANIZING ITS ARMED FORCES

Long before the Warsaw Pact was established, the Soviet Union had molded the East European states into an alliance serving its security interests. While liberating Eastern Europe from Nazi Germany in World War II, the Red Army established political and military control over that region. The Soviet Union intended to use Eastern Europe as a buffer zone for the forward defense of its western borders and to keep threatening ideological influences at bay. In the hierarchy of Soviet security priorities, continued control of Eastern Europe was second only to the defense of its homeland. The allied national formations were directly subordinate to the headquarters of the Soviet Union's Supreme High Command and its executive body, the General Staff of the Armed Forces. Although the Soviet Union directly commanded all allied units, the Supreme High Command included one representative from each of the East European forces. Lacking authority, these representatives simply relayed directives from the Supreme High Command and General Staff to the commanders of the East European units.

The political and military alliance of the Soviet Union and East European socialist states, known as the Warsaw Pact, was formed in 1955 as a counterweight to the North Atlantic Treaty Organization (NATO), created in 1949. Seemingly, the alliance served peaceful international purposes and the common security of its participants. According to the Warsaw Pact Charter, signed by the allies on May 1, 1955,

The contracting parties reaffirming their desire for the organization of a system of collective security in Europe, with the participation of all the European states, irrespective of their social and state systems.¹

In fact the Warsaw Pact was established to serve pure Soviet security interests, using geopolitical advantages and military resources of previously occupied and politically subordinated countries. Consequently, the political leadership and the military command structure of the Warsaw Pact were based on the unconditional reliance of the allied states and the full execution of Soviet political will.

The contracting parties declare their readiness to take part, in the spirit of sincere cooperation, in all international undertakings intended to safeguard international peace and security, and they shall use all their energies for the realization of these aims.²

In this article of the Charter there is a slightly concealed allusion, which can explain the essence of the military planning principles and procedures in the Warsaw Pact. The allies had to use their resources and energies to fulfill the Soviet requirements. The allied states did not even have a tangible defense budget. Fulfilling Soviet-designed defense requirements had taken complete priority over all other national interests. The requirements of the Warsaw Pact Military were designed in Moscow, and the approval process of the projects was quite formal which excluded any significant influence from allied representatives. Consequently, the Hungarian People's Army³ management had no particular defense planning system or procedure until the early 1990's,

In Hungary, at the end of the 1980's, the old political structure approached its final years of existence. Leaders of the country recognized that further political and

¹ Warsaw Pact Charter (Modern History Sourcebook).

² Warsaw Pact Charter, *Article 2*. (Modern History Sourcebook).

economical isolation could bring tragic consequences to the nation. They understood that the further rejection of trade limitations and advanced technology would gradually debilitate the economy, which would undermine the remaining political power. The communist leadership was intent on stabilizing its political power by improving the socialist system. Nobody could have ever predicted the rapid and fundamental changes that occurred in such a short period of time and which would change the political map of Europe as well as the entire world order.

After the collapse of the Soviet Union and dissolution of the Warsaw Pact, the former allied states faced an entirely new external and internal situation. Hungary finally obtained full independence, which had not happened, since the 16th century and then was abandoned by both world powers and its former allies.

Before this vast political transition, the Hungarian armed forces as part of the Warsaw Pact, had limited responsibility and was subordinate to Soviet command and the communist party. The unexpected and swift political changes had completely confused and shaken all the military. This confusion and uncertainty generated a period of upheaval. A large part of the younger and well-educated personnel left the forces immediately and found jobs in the prospering civilian sector, while the oldest officers opted for early retirement. The remaining commanding staff, characterized by outdated skills and education and antiquated political convictions, tried to adapt.

It was evident to everybody that the new political structure had to reshape the armed forces. The Warsaw Pact member, the Hungarian People's Army, was not

³ The official name of the Hungarian military forces subordinated to the Warsaw Pact.

prepared for the circular defense, and even lacked a doctrine or military strategy. Owing to the human resource problem described above, some experts advocated retiring the entire armed forces and creating an entirely new system, but nobody would assume the responsibility for such a radical decision. Furthermore, the inherited downward-spiraling economy and the colossal national debt made any drastic steps impossible. In addition to that, many feared the old-style military power and the possibility of rebellion. At that point, a long lasting metamorphosis of the armed forces began and continues today.

The termination of the Warsaw Pact allowed the country to express its historical desire to reestablish its European political, economical and cultural society. The formidable barriers that had inhibited this dream for so long finally collapsed. Hungary announced its willingness to join the European Union and NATO and headed toward a market economy.

The West-European and NATO member countries appreciated the Hungarian efforts and implemented several projects to help the new democratic country to regain its historical place in Europe and in the world at large.

B. DEVELOPING A RELATIONSHIP WITH NATO; SPONSORSHIP OF UNITED STATES

Since 1989, Hungary has sought to become more closely integrated with Western European institutions. Hungary signed on to NATO's Partnership for Peace on February 8, 1994, and approved an individual partnership program on November 15, 1994. Since December of 1995, Hungary has leased a military base in Taszár, in southern Hungary to U.S. troops serving in Bosnia. In addition, a Hungarian engineering battalion is participating in NATO's Stabilization Forces (SFOR) in Bosnia. Some surveillance aircraft operating in aerial verification missions over Kosovo are based at Taszár.

In December of 1998, parliament failed to pass by a two-third majority a constitutional amendment that would have increased the government's powers to approve the deployment of Hungarian troops abroad or the stationing of foreign troops in Hungary. The government had pledged to revisit this issue in 1999. In accession negotiations with NATO in late 1997, Hungary agreed to contribute 0.65% of the alliance's common budget. Hungary has pledged to increase its defense budget by about 0.1 % of the GDP per year over the next 4 to 5 years. In July of 1997, the government announced its intention to hold a national referendum on joining NATO in November 1997. On November 16 with just under a 50% turnout, about 85% of participants cast ballots in favor of NATO membership. In February 1999, parliament ratified the North Atlantic Treaty. On March 12, the Czech Republic, Hungary and Poland became members of the NATO alliance. Hungary has since supported NATO's air campaign against Yugoslavia. The government and parliament have approved NATO's use of its airfields, in addition to its airspace. With other countries, Hungary opened accession negotiations with the European Union in March 1998.

Since the democratic revolutions in 1989, U.S. administrations have advanced relations with the region. Governmental and private contacts, programs and investments with central European countries have expanded considerably. U.S. assistance programs to central Europe continue to emphasize economic growth, democracy and quality of life.

The United States' relations with Hungary improved consistently in the 1980s. The Bush administration launched an extensive U.S. aid program for Hungary in July of 1989, which emphasized private sector development and promotion of trade and investment. A Hungarian-American Enterprise Found was established in 1990. Hungary

has become eligible for the General System of Preferences (GSP) and Overseas Private investment Corporation (OPIC) benefits, and as of April 1992, has received unconditional Most Favored Nation (MFN) trade status. Hungary has received substantial economic assistance under the Support for Eastern European Democracy (SEED) Act, totaling over \$240 million through fiscal year 1998. In the private sector, the United States has the highest level of foreign investment in Hungary.⁴

Hungary has also received U.S. security assistance in the form of grants, loans and military training. Among those, the United States government established a foundation called International Military Educational Training (IMET), which provides the opportunity for the military personnel to acquire high-level Western-style military education. American and British advisors are working with the Hungarian military to rewrite its doctrine according to Western models to harmonize its plans and its strategy with NATO's goals.

⁴ Julie Kim, "Poland, Hungary and Czech Republic: Recent Developments" (CBS Issue Brief for Congress 1999).

III. THE DRMM

A. THE EMERGED NECESSITY OF IMPLEMENTING THE INFORMATION TECHNOLOGY

Under Soviet control it was commonly known that information was power, so it did not belong equally to everyone. The information systems were kept under government control and the civilian population had very limited access. For example, average citizens in Hungary had to wait up to 20-25 years for private telephone access.

Usually, the high-level technology was implemented in the military prior to the civilian sector. In Hungary this happened in the opposite way. In the newborn private sector, an urgent need for the new technology emerged to keep up with international competition. The old communist management had to move forward to relax rigid restrictions in trade and encourage the implementation of advanced technology. The technical intelligentsia worked to diffuse up-to-date technology, sometimes even illegally. Certain high-tech systems and equipment were unavailable to the Eastern countries, or had been under customs restrictions or the Coordinating Committee for Multilateral Export Controls (COCOM). In the military, data processing was done manually in the Soviet-inherited bureaucratic system. The advanced IT was available only for the top-level military management, and mostly for their personal matters. In the middle of the 1990's in the civilian area, there was accessible up-to-date technology on the market shelf, while the military personnel were still working with dated equipment.

Under these conditions Hungary was faced with reorganizing its defense forces and preparing for NATO accession. Without a functioning communication system that is secure and efficient, data collecting and processing systems, the possibility for

cooperation with military allies is nonexistent. Both America and Hungary recognized this key point at the very early stages of negotiations.

B. INTRODUCTION TO THE DEFENSE RESOURCE MANAGEMENT MODEL

1. Basic Information about DRMM

One of the important goals for the reorganization was implementing the Defense Resource Management Model (DRMM) Information Technology system. The DRMM is designed to be an analytical tool used by high-level military and civilian planners in the macro analysis of a given country's defense system. It is a computer model based on US defense planning practices. The DRMM integrates force capability and cost assessment data into a single model to compare various tradeoffs between force structure alternatives. Planners can create and modify the model's fundamental characteristics to include force structure, equipment levels, manning, peacetime training, wartime stockpiles, and fiscal management practices.

The model produces both tabular and graphic outputs that quantify a country's force capabilities. They can be compared to alternative force structures and compared to the capability of a national opposing or comparative force. Moreover, the DRMM contains integrated force capability assessment and cost analysis modules that help to model the benefits of different force programs. The information provided by the model can assist defense managers in deciding between alternatives. See Figure 1.

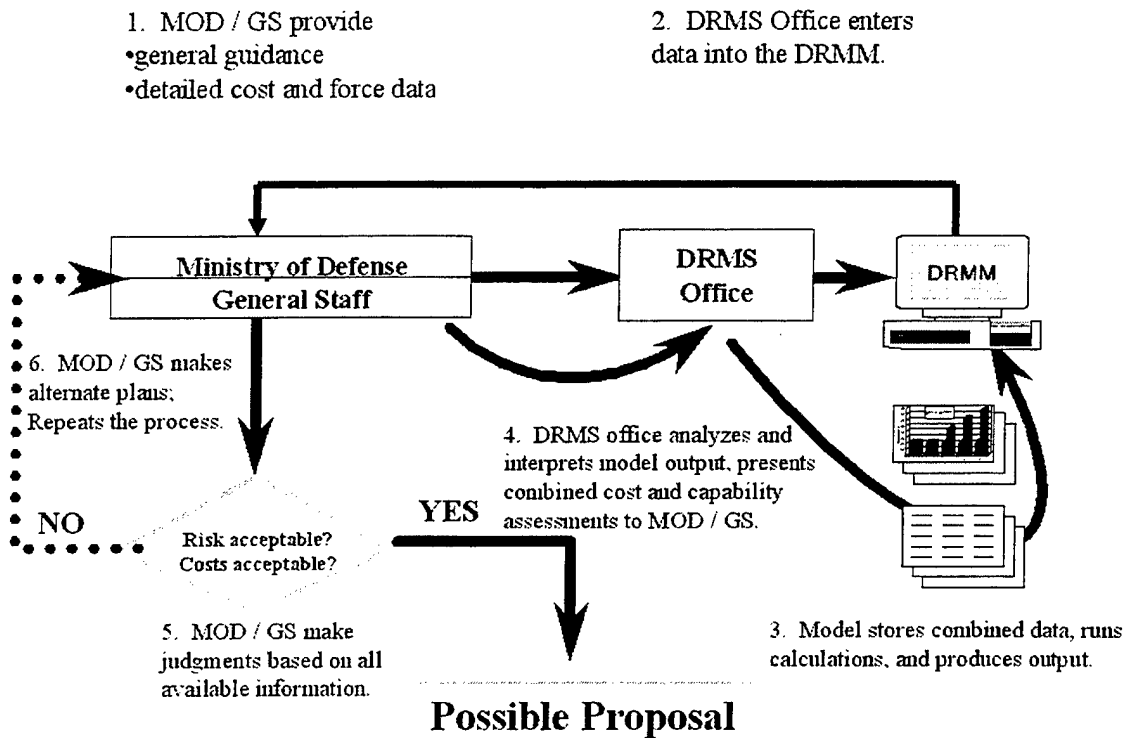


Figure 1. How DRMM is Used.

The DRMM is designed to:

- Help civilian defense and military officials develop cost-constrained, cost-effective defense programs
- Familiarize officials with U.S. Planning, Programming and Budgeting System (PPBS) techniques and methodology
- Provide military and civilian leaders with a model to use in planning for national defense
- Help to balance national defense expenditures against economic and political reforms and assist countries in providing for their defense requirements during a period of severely constrained budgets

The DRMM operates on any IBM-compatible personal computer in the *Windows* environment. Developed using the *Microsoft Visual FoxPro* database management

system, the DRMM stores tens of thousands of data elements representing key characteristics of any given national military force structure. The DRMM is a completely self-contained run-time module. Users do not need *Microsoft FoxPro* to use it.

2. Data Requirements

The DRMM is a data model consisting of four types of data:

- Force setup
- Cost setup
- Force (or unit)
- Cost factors

a. Force Setup

Force setup consists of qualitative information, such as the universal set of weapons types, war reserve materiel types, personnel types, and critical unit characteristics to be used in the model. *Force setup* also includes limited calculation factors, such as the range of possible unit mobilization times. The setup data serves as the building blocks or reference lists of information that will be used to assign characteristics to specific units or whole force structures to and includes the Opposing Force/Comparison Force. Matching specific unit information with force setup data creates force (or unit) data. See Figure 2.

b. Cost Setup

Cost setup data or first level data defines country-specific currencies, cost accounts, budget categories, project names, inflation factors, and unit types. The second level of data is the Cost Factors for personnel, equipment operating, unit operating, equipment procurement, and project costs. These can be defined as either “actual” costs based on historical pricing or “standard” costs from engineering or financially calculated

standards. Also at this level, resources or funding factors can be applied to the individual cost factors. Inflation rates are also found at this level.

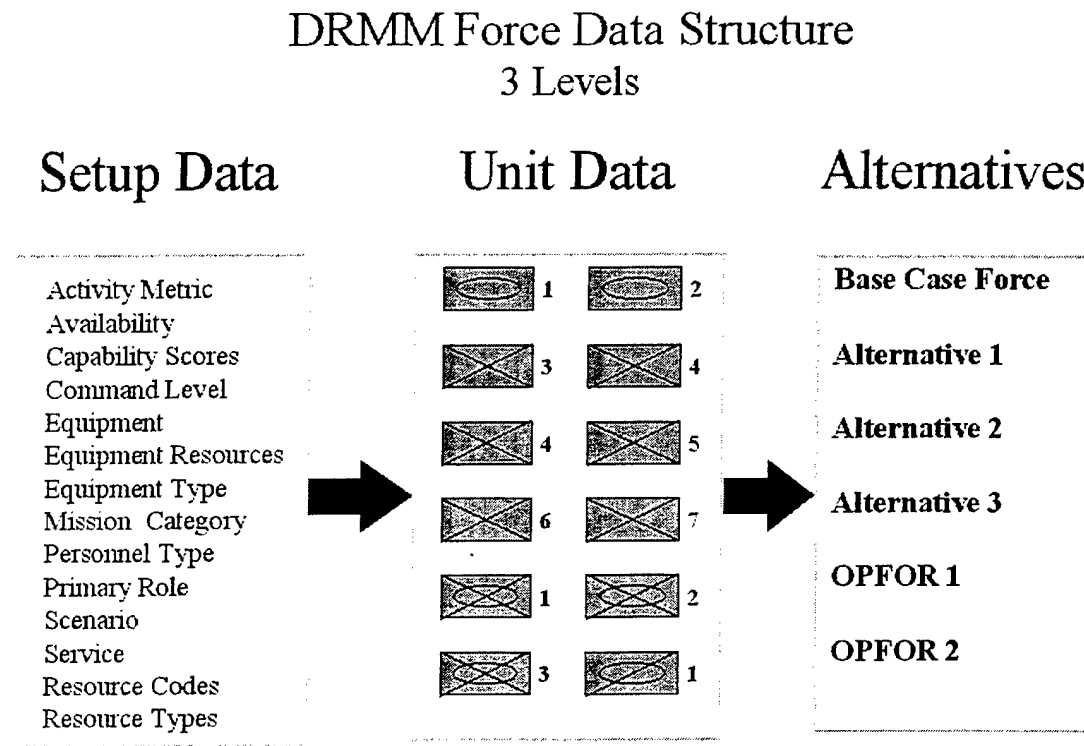


Figure 2. DRMM Force Data Structure.

The model uses setup data to facilitate the user's entry of force data and cost factors. In the DRMM, there will be only one combined force-cost body of setup data, which remains constant for all alternative force structures modeled. Conversely, there will be as many combined sets of force or unit data and cost factors as force structure alternatives entered into the model. The differences are in the multiple force and cost data sets, particularly in quantities for uniquely defined alternatives. The following paragraphs will explain each of the four categories of data in detail.

3. Limitations of the Model

The DRMM uses an equipment scoring methodology to measure the static combat capability of a described force. The DRMM makes static comparisons of alternative force structures and therefore does not predict a battle outcome. The DRMM is not a force-cost optimization model, nor is it a war game. The DRMM will not tell users how best to allocate resources to “win” a conflict. The model does not factor into its capability calculations of non-lethal contributions such as: command, control, communication, computer and information (C4I), electronic warfare, psychological operations, target acquisition, transportation etc. Also, the DRMM does not adequately measure the contributions to force capability of light forces, such as infantry. The DRMM is not intended to replace military judgment. It does not provide the best alternative or a definite answer. It is merely a tool to support decision-makers, and not a substitute for experienced military judgment.

4. Model Output

The DRMM provides two forms of output: tabular reports and graphs. These forms of output have been designed to facilitate review of force structure data for errors and to support analysis and assessment of force structures. Both forms can be generated for a wide variety of force structures and cost information, depending upon the selections made by the user.

5. Defense Resource Management Model Components

The DRMM is used to store data, which represent the key cost and force characteristics of a national military force structure. There are two major components of the DRMM: the force module and the cost module.

a. Force Module

Within the force module, the DRMM focuses on four major areas: units, equipment, personnel, and resources. These four areas are briefly described below.

(1) Units. The force structure is described at the unit level and at a level of detail determined by a user. Force and cost data can be reflected at the regiment and/or separate battalion level, whereas the organization of some countries' armed forces may dictate that force and cost data be maintained at a lower echelon, e.g. company. In addition to describing a country's own armed forces structure, an opposing force (threat) or comparison force structure can be developed for use in comparing the relative combat capability of the two forces. In cases where the description of a realistic opposing force is too politically sensitive, this capability can be used to measure regional parity between neighboring countries or a comparative national force. This capability allows for the comparison of trends in combat capability between alternative force structures and is not intended to predict battle outcome. The model can generate a "buildup graph" of selected forces, reflecting the readiness level, training time, and travel time under a defined scenario.

(2) Equipment. The equipment inventory of a country's force structure and its associated activity level is entered in the DRMM at the level of major item of equipment. The DRMM uses a weapon system scoring methodology that assigns a numerical value to the major combat systems, such as tanks, APCs and artillery, in the inventory. The combat power of a force is computed by aggregating the total weapon systems scores for all equipment in the selected unit's inventory. This score represents a static measure of the combat capability of a force. However, it is not a war game and it does not predict the outcome of a conflict. Although equipment, such as trucks and other

non-firepower related items, should be entered in the model for costing and training purposes, these equipment items do not receive a combat capability score. The model produces the combat capability output in five different levels: *Authorized*, *Actual*, *Mission Capable*, *Effective*, and *Training*. The model also allows a user to show degraded combat capability due to reduced equipment on hand, equipment under repair, lack of training on equipment, and lack of resources to use the equipment fully. The associated activity level of the equipment allows the model to calculate unit operating costs and a rough measure of unit training levels. See Figure 3.

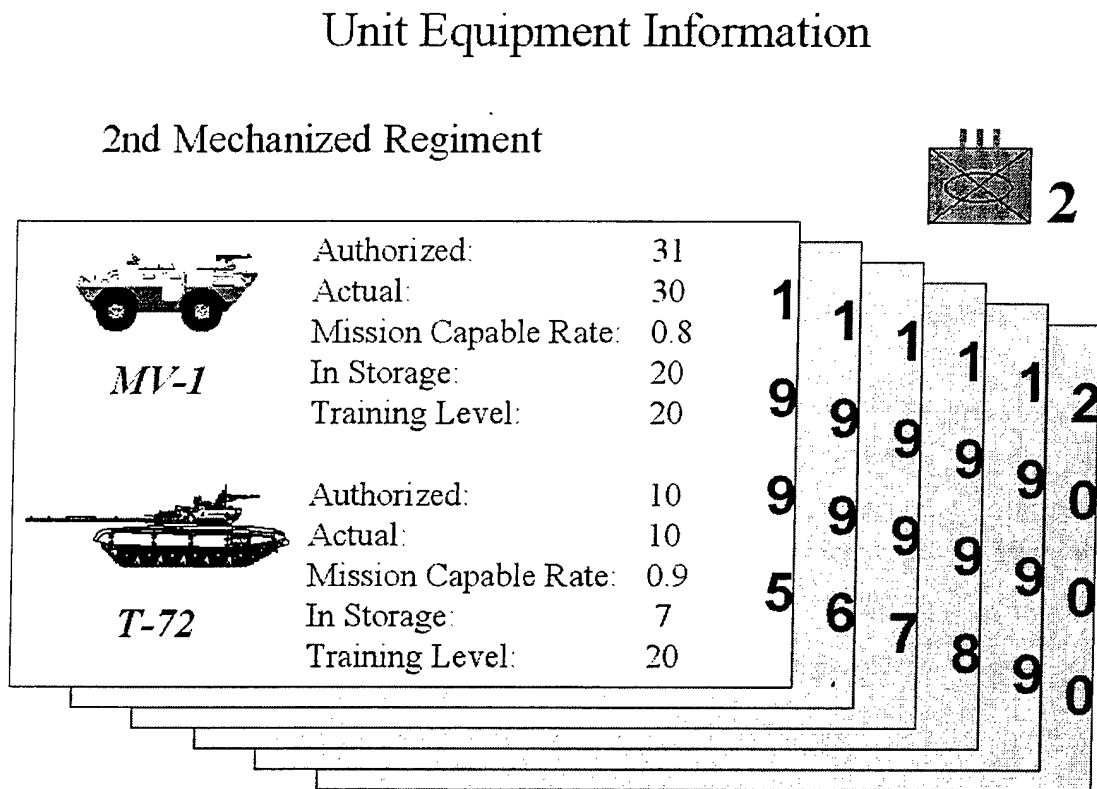


Figure 3. Unit Equipment Information.

(3) Personnel. The DRMM accounts for personnel at the unit level. Personnel quantities are entered at the unit level based on Personnel Types. Personnel Types must be agreed upon by both the force team members and the cost team members so that personnel quantity data reflected at the unit level are compatible with the personnel budget accounts.

(4) Resources. The DRMM accounts for user-defined resources, sometimes called war-reserve materiel, at the unit level. A user defines the types of resources included in the model in the Forces Setup files. Typically, ammunition and POL are the two major resource types tracked in the DRMM but resource categories of spare parts, crews, and food, could also be defined. The required and actual quantities of a defined resource are entered in the DRMM at the unit level. The DRMM also includes a function to allocate resources from a higher level to a lower level, for example from brigade or depot to battalion if actual quantities exceed required quantities at the brigade level and a shortage of the same resource exists at the battalion level. Resource Types also can be categorized to cause degradation in combat capability (the “effective” score) if resource deficiencies exist. See Figure 4.

Unit Resources Information

2nd Mechanized Regiment

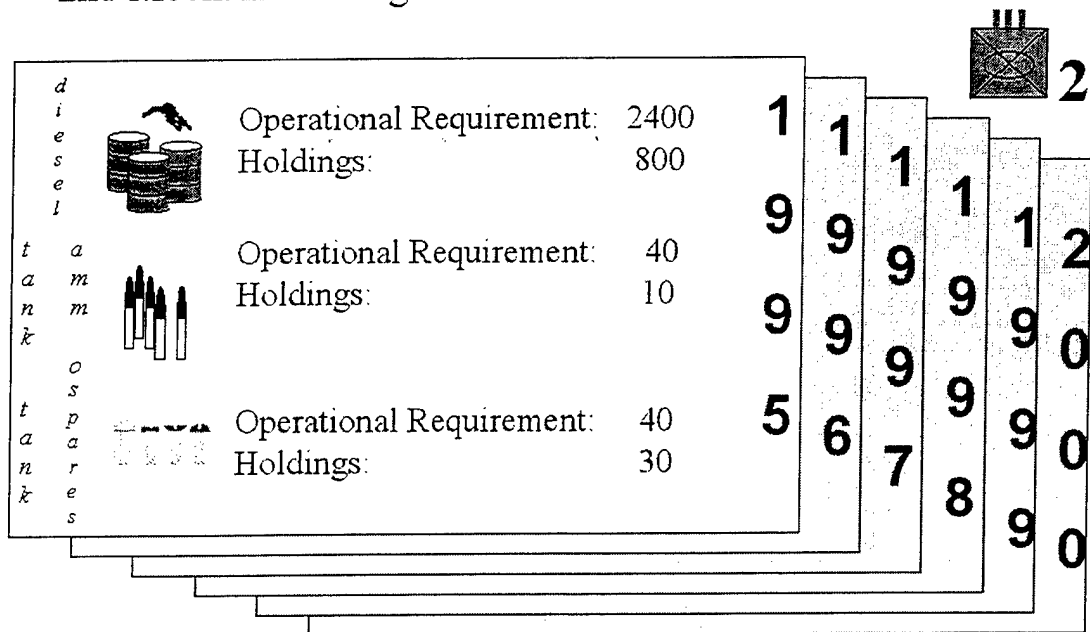


Figure 4. Unit Resources Information.

b. Cost Module

The cost module defines peacetime operating costs of a country's defense program in the four major areas of defense resource management: force structure costs; readiness costs; investment costs and sustainability costs. The DRMM also incorporates inflation rates so that these costs can be viewed in terms of their escalated values in future years. In practice, the DRMM advocates a unit-based costing approach where the above costs are associated as much as possible with specific units. In this manner, the DRMM approach builds the costs from the bottom up as opposed to a top down allocation approach historically used by many countries.

The DRMM costing approach is also one of *decision support* rather than *decision-making*. The DRMM does not attempt to optimize resource allocation. Rather, the DRMM allows a user to develop likely alternatives whose effects on costs can then be analyzed and evaluated. This approach facilitates the force and cost analysts to be more intimately involved in the modeling effort than one in which the model dictates a solution.

6. DRMM Analytical Methodology

a. "Base Year" and "Base Case" Force

The first step in the basic DRMM methodology is to describe the *Base year* force. The *Base year* force is also the first year of the *Base case* force and generally reflects the most recent year that force structure and budget data are available. Once the *Base year* force data, including units, personnel, equipment, with associated activity levels, resources and all associated cost factors are entered in the DRMM, the data is copied for the number of years to be reflected in the *Base case* time period, which should correspond to the defense planning cycle. Then, approved or programmed changes in the force structure, personnel levels, equipment modernization, or resource levels beyond the *Base year* are entered in the model. This constitutes the *Base case* force.

The base case is a multiyear snapshot of the officially approved current and future force. The base case provides a reference point for documenting the capabilities and costs associated with a country's approved military program in the current and future fiscal years. Once the base case, including out-years, is established, alternative force structures can be developed and compared with the base case's aggregate capabilities for overall force capability and cost effectiveness. See Figure 5.

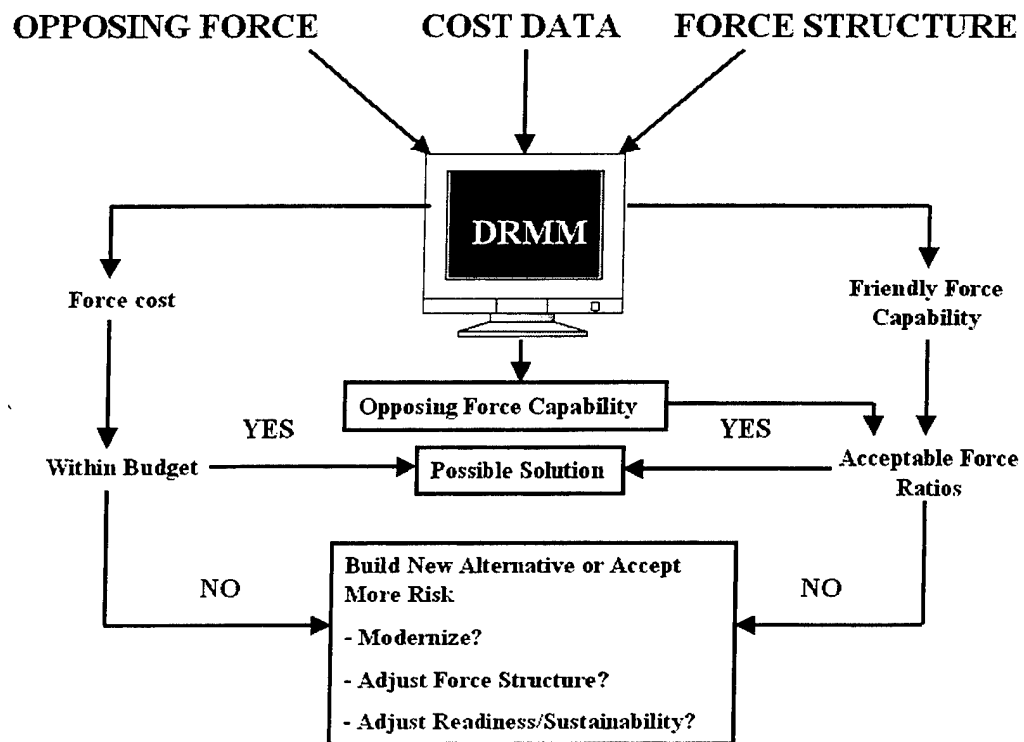


Figure 5. Model Methodologies.

b. Analyzing the Base Case and Developing Alternatives

The analysis of the *Base case* focuses on identifying problem areas for redress. These areas may be examined in detail in *alternative* force posture. The cost implications of the *Base case* and force ratios between the *Base case* force and an Opposing Force if applicable, are examined to determine the credibility of the *Base case* force. If deficiencies are identified in force capability (unfavorable force ratios), sustainability (resource shortages), or readiness (inadequate personnel or training levels), then a new *alternative* can be developed to redress the shortfalls or the decision made to accept more risk in the *Base case* force. *Alternative* program structures might examine

force restructuring, equipment modernization, resource levels, personnel realignments, or reallocation of financial resources between different areas of the budget. It may be necessary to examine more than one *alternative* force structure in order to develop a budget-constrained but effective force structure within the parameters of political guidance and budget realities.

C. U.S.-HUNGARIAN COOPERATION FOR IMPLEMENTING THE DRMM

On October 26, 1993, the Under Secretary of Defense for Policy of the United States Department of Defense requested the Directorate for Program, Analysis and Evaluation within the Office of the Secretary of Defense to develop a program for the emerging democracies of Central Europe to help civilian defense and military officials develop defense programs.

In 1995, the Hungarian Defense Forces accepted the United States' offer to implement the Defense Resource Management Model and the parties signed a high-level agreement for future collaboration.

The cooperation started with enthusiasm. The Hungarian Ministry of Defense established an independent department with three sections lead by a colonel, directly subordinate to the Chief of Staff. The department consisted of officers and experts with different backgrounds: Army, Air Force, economy, acquisition and finance. The group had a supplemental budget to acquire the necessary hardware, furniture, cars, and consuming materials. The work began with the educational phase. A mobile team of DRMM experts from the U.S. DoD Directorate for Program, Analysis and Evaluation held a five month training session for the Hungarian personnel. During the course of the

Defense Resources Management Studies, joint teams representing the U.S. and Hungary, employed the DRMM as their primary analytic tool.

IV. DRMM IMPLEMENTATION

A. DIFFERENT VIEWS TO THE IMPLEMENTATION

The Hungarian military leadership appreciated American assistance and accommodated the DRMM implementation process. However, since this leadership was unfamiliar with the principles and methodology of American defense planning procedure (PPBS), the expectations were not realistic. Overvaluing the role of the DRMM and Information Technology, some Hungarian leaders looked at the program as a magic tool, which could quickly and easily solve the whole transition and make the overall Hungarian military system compatible with NATO.

The American experts had a somewhat simplistic approach to the DRMM implementation. The linear thinking and perceptions of the group members, being colored by their roots in American culture and education, could not recognize the complexity of the Hungarian military environment. The software designers did not realize that the PPBS was designed to fulfill U.S. military requirements inside the United States, based on U.S. society, tradition and culture.

B. DIFFICULTIES AND OBSTACLES THAT EMERGED DURING THE IMPLEMENTATION PROCESS

The first difficulties appeared upon entering the basic data. It became clear that the existing data collected using the old bureaucratic methods was not precise enough and contained several confusing elements. The first phase of the armed forces' reduction was under way. Some bases had just been closed, renamed or redeployed. Meanwhile, the reporting system underwent a capital reorganization. Some units reported using the old system while others used the new one. Sometimes the different organizations provided

reports simultaneously about the same objectives, and yet the data were entirely different. The old data were mixed with new data. Often the units did not report data at all. The Hungarian team members tried to overcome the obstacles, but the group, being in a temporary legal status, lacked the authority to change the bureaucratic system. Some experts suggested improvements to the bureaucracy to make the system more applicable for the computerization. Due to the lack of Information Technology knowledge and awareness by the leadership, these ideas were rejected.

The American side had a quite different approach. The team members looked at the implementation process as an experimental launch of their software, and viewed the Hungarian military as an ideal environment for this experiment. When they recognized the malfunctions, they tried to fix them by changing the software design. The experts made several improvements to the program without any significant results. Having only a general knowledge of the Hungarian military bureaucracy, the American specialists did not understand the essence of the problem.

The joint team made an enormous effort to overcome these difficulties on both sides, but it could not gain the desired result. The Hungarian military leadership did not recognize the importance of the required changes. The middle level leaders did not even understand the need to create a resource allocation and defense planning system because the Hungarian People's army did not have one during the Warsaw Pact era. Later, when certain high-ranking military officials became familiar with the program, they recognized its advantages but realized the program could threaten them. The program was too precise, and its implementation would have made managing the military by the previous methods impossible. They knew that they could not work with this program due to their

old-style education. Consequently, they strongly opposed the implementation of the DRMM.

During the bilateral cooperation the top management seemingly showed interest in the DRMM, but later put it aside. In the fall of 1997, during the last reorganization period of the armed forces, the DRMM department was abolished. The program and the assets were moved into a little section, subordinate to the Defense Planning Directorate of the General Staff. However, this section, named the "Defense Resource Analyses Group" had an entirely different assignment and did not have the ability to deal with the Defense Resource Management Model.

In addition, the transition of the DRMM issue to a lower level, generated legal and organizational difficulties. The Defense Resource Analyses Group in its first annual report in December 1997 highlighted:

At the end we have to report a significant problem: However the DRMM team in its current position and form is able to support certain defense planning functions for the Defense Planning Directorate, it cannot perform the whole Defense Resource Management support. The Analyses Group has no legal access to information concerning the Ministry of Defense and its agencies, because the group is located at a lower level of command-and-control hierarchy.⁵

This demonstrates that the DRMM issue probably had been placed intentionally on the margins of Defense Resource Management. Meanwhile, at the Ministry of Defense, a new Defense Planning Directorate had been created with the goal to design a new Hungarian Defense Resource Management System (VTR). The new system was

⁵ Report of Performed Duties and Experiences – Defense Resource Analyzes Group 1997 Budapest

drafted without any involvement of the DRMM team. The approval process of the VTR is still underway.

C. THE DRMM PROCESS PRESENTLY

In the spring of 1998, the United States once again attempted to implement the methodology in the ongoing reorganization of the Hungarian Defense Forces. A mobile team of the software design group visited Hungary monthly between January and June. At that time, the situation in the Balkans and the European security issues significantly accelerated the negotiations between NATO and the invited countries of the Czech Republic, Hungary and Poland. The NATO enlargement had been considered a reality in the near future. The DRMM experts presented a new NATO compatible version of the software to meet the new requirements.

By the time the defense planners in the Hungarian Ministry of Defense rejected the DRMM, however, this silent decision was not announced officially. Unfortunately, meetings could not resolve the problems. The DRMM implementation has failed because the desire to use the type of resource management that DRMM supports was not backed at the highest levels of the organization.

As a result of the absence of senior and middle management support, the DRMM implementation team was disbanded in 2001.

V. ANALYSIS

A. ANALYSES

1. The Information Revolution

Globalization is one of the dominating paradigms of the international strategic planning process. Ten years ago, it still seemed irrelevant to the operations of most organizations. Today, it is not fiction anymore, and it is an exciting reality for those who take advantage of it and a harsh lesson for those who do not. The past fifty years have meant fundamental and rapid transformations of society due to the advances in Information Technology. Until fairly recently, however, human interaction was spatially dependent, meaning that in order for people to interact, they all had to be in the same place at the same time. During this period, remote interaction and messaging systems were prohibitively expensive, inaccurate, inefficient, or some combination of all of these factors. Only in the past few years have technologies, such as electronic mail, fax transmission and computer networking become effective and affordable to the extent that at least some of them can be found almost at every business. Practically every governmental organization uses Information Technology, where the term Information Technology really did not exist until after 1980. What is so surprising is the rate at which Information Technology has become integrated into the lives of IT users. They are now as significant and valuable as the telephone and postal system, perhaps even more so. Information Technology is creeping into every aspect of human life and into every aspect of corporate life.

Nevertheless, technology has also proved to be costly and harmful for those who failed to use it properly and to integrate it with all the other building blocks of their organizational structure. Lack of knowledge and experience with the electronic mediums has often created the greatest problems. Therefore, Information Technology (IT) integration in the corporate environment is not only an issue of cables, numbers and connections. It is also a human issue. It influences the corporate culture of corporations all too often when it should instead be tailored to that organizational culture.⁶

However, we have to assess to what extent IT influences, if it does, corporate culture, organizational structure, and the way people interact in the workplace.

2. How Does IT Affect Organizations?

The influence of IT organization and their functioning of organizations and the likely changes created in the behavior, structure and culture of the workforce was analyzed. These generalizations reach across cultural boundaries, although, some are more or less prevalent according to cultural norms.

a. Organizational Structure

Organizational structure is likely to be the variable that will be the most affected by the appearance of IT. Introducing IT significantly rearranges the workplace. Employees previously had to be in close proximity to each other to be able to work together efficiently. Today the face-to-face contact is seldom required and employees that are separated by long distance can afford to collaborate at low cost using IT.

One factor concerns the structure of the workplace: The form of most organizations at present has been dictated by the constraints of a non-electronic world.

⁶ Dr. Caren Siehl, *Lecture* (at the American Graduate School of International Management 1995.)

Formal command structures had to specify who assigned tasks to whom, who reported to whom and who was allowed access to what information. These constraints reinforced the centralization of information and shaped the number of organizational levels, the amount of interconnectivity, the degree of information sharing and the structure of social relationships.

In the Taylor model, the relationship between operators and information systems was relatively simple: The workers received and sorted information but only had at their disposal that information that was deemed necessary for them to perform assigned tasks. It was a one-way communication and little or no feedback was possible from the operator to the originator of the information by the means of IT. They only played a passive role within the information system since a segmented and hierarchical division of information existed.

At present, and potentially in the future, organizations that incorporate Information Technology successfully are becoming more flexible and less hierarchical in structure. In the successful implementation of IT, the worker is changing from being a passive figure to an active one, in that more information than previously supplied by the system must be asked for by the former. The worker must also supply the system with information that adapts the IT structure to this reality. The change in the worker's role poses the problem of possible access to information. To supply information and facilitate access to the IT, organizations must lower entry thresholds and multiply ways of access and de-centralize its point of contact with the users. It has also proven to be necessary to

remove bureaucratic impediments such as long hierarchical chains and the rigid division of responsibility that often obstructs channels of communication.⁷

"Information Technology should enhance, not obscure what is done in the company."

(Sculley, 1995)

Within the corporate culture, this changing mindset has manifested itself as a re-evaluation of traditional roles of various individuals within the organization's structure. Traditionally, computer operators have been at the low end. Their duties and responsibilities were generally neither impressive nor interesting. More recently, however, companies have begun to realize that these individuals represent a potentially valuable resource.⁸

b. How National Cultures Influence the Implementation of IT in Organizations

Information Technology affects the corporate culture and especially the organizational structure in a variety of ways. The introduction of information systems may significantly be affected by national patterns of culture. Company patterns for using technology can be explained in part by analyzing how white-collar workers have acquired a professional sense of self-awareness. Naturally, this differs depending on the country or region being examined, but there does seem to be a pattern linking the relationship between blue and while-collar workers and how Information Technology is implemented.

⁷ Dr. Caren Siehl, *Lecture* (at the American Graduate School of International Management 1995.)

⁸ Dr. Caren Siehl, *Lecture* (at the American Graduate School of International Management 1995.)

B. IDENTIFYING THE REASONS AND FACTORS WHICH CREATED THE MAJOR OBSTACLES

1. Personal Fears Associated with Organizational Changes

Organizational changes generate personal fears that make people resistant to the changes. The cost of change is the losses employees anticipate as a result of changes. The most frequent personal fears are the following:

- Fear of losing control or power
- Fear of losing identity
- Fear of losing competence
- Fear of losing relationships
- Fear of losing rewards⁹

2. Possible Disadvantages of Implementing Information Technology

Although information systems clearly alter and benefit organizations in various ways, the implementation of Information Technology can also create disadvantages. Many of the fears revolve around the feeling that computers are replacing human relationships, are making the company life technology oriented and thereby, dry and boring or that the appearance of networks and the increasing level of interactions over them might fragment and dismember the organization, its identity and eventually its existence

The impression of losing power can affect anyone at any level of the organization. For example, heads of organizations are often older than Information Technology and are either forced to comprehensively train and acquire theoretical and conceptual knowledge or to shift the responsibility onto the shoulders of an expert and face the resulting loss of power and authority. At the department head level, each head often tries to protect his

⁹ Michael A .Beer: Leading Changes Harvard Business Research, 1988.

department's data. By using Information Technology, however, each has access to common data and can compare his results with those of others. Many view the resulting loss of privacy to be akin to a loss of power. Additionally, much of the workforce's traditional roles has been challenged and redefined. Many suffer an identity crisis and believe that Information Technology will reduce their autonomy, although the opposite often occurs.¹⁰

Many other fears exist concerning Information Technology. One of the most common is losing one's basic position in the organization if one fails to adapt to the new technology. Additionally, the use of certain forms of information systems, such as the computer, allows upper management to access workers private data, and easily monitor their work performance, giving some individuals the sense of being spied upon. Others find computers to be dehumanizing, leading to automation and a lack of opportunity for creativity. Some feel that they are pinned to the screen and are not really communicating with others on the basic level that humans require. Finally, the introduction of any automated, computerized process leads to the fear that one's job can be in jeopardy and that an individual is in danger of being replaced by a machine, which furthers the potentially dehumanizing effect of computerization.¹¹

Another potential negative aspect of Information Systems Technology is that its arrival at an organization often leads to increased internal politics. Groups that feel threatened by Information Technology will often entrench against its deployment, or at least put forth plans for a reduced deployment, while other groups that are their political

¹⁰ Dr. Caren Siehl, *Lecture* (at the American Graduate School of International Management 1995).

¹¹ Dr. Caren Siehl, *Lecture* (at the American Graduate School of International Management 1995).

rivals or adversaries will respond by carrying on a strong campaign in favor of its installation. The result of this in-fighting is usually that when IT is finally deployed, it is seldom a system that is best suited for the organization's needs, but rather is the one that the winning faction proposed. Additionally, some departments or managers will see new Information Technology as a chance to increase their own power base within the organization by controlling the new system. In this case, the given department will volunteer to take charge of the system, often claiming expertise that it really does not have. After the fact, the workers in the department must struggle along to cope with this new system, unable to request additional resources without the risk of exposing their deception and both they and the organization as a whole, suffer for it.¹²

Mistakes and technical problems occurred during the implementation process in the described environment, do not pose any great difficulties, nor do they precipitate long-term disadvantages. As people become more and more familiar with Information Technology and adapt to the changes it brings about, these problems will disappear, most likely within only a few years after the inception of any new Information Technology. On the other hand, psychological obstacles, such as the mind-set that insists on printed communication or the quality of working life, are far more difficult to overcome.

3. The Hungarian Environment for Implementation of Information Technology

The first Soviet-made computer in Hungary was installed at the Hungarian Academy of Sciences in December 1959. The very first Western-made computer was set up at the Ministry of Heavy Industry four years later. In 1975, the Coordinating

¹² Dr. Caren Siehl, *Lecture* (at the American Graduate School of International Management 1995).

Committee for Multilateral Export Controls (COCOM)¹³ closed the door on the importing of large capacity computers and parts. These restrictions have been relaxed only in the middle of the 1990's. The Hungarian market is still strongly PC-oriented.

In practical terms, there is no mainframe experience and skills available in Hungary because, with only few exceptions, the country skipped the mainframe period. Companies started to build their local area networks and distributed databases in the early 1990's. The role of system integration is growing on the domestic computer market and on the Information Technology market in general. Customers today are no longer looking for separate hardware and software, but for Information Technology solutions.

The level of skill and education, as well as the motivation of IT experts, is high. There are many well-trained, experienced people in Hungary, but because of the booming IT industry and the temptation of working abroad, it can sometimes be difficult to hire the right employee with specialist knowledge for the military. In Hungary, the military personnel are underpaid when compared to the same level in the civilian workforce. One of the major problems of any IT implementation in the Hungarian military was dealing with the shortage of highly skilled military IT personnel. The military education system could not keep up with the booming industrial changes and could not meet the emerged human resource requirement. The military IT workforce was skilled and educated enough but their education was civilian oriented. There was an intellectual gap between the military IT demand and the civilian IT personnel supply. The mutual misunderstanding

¹³ A committee consisting of representatives from all NATO countries except Iceland that, between 1949 and 1994, coordinated policies restricting exports of products of potential strategic value to the former Soviet Union and certain other countries.

between them is still one of the major obstacles in any IT implementation in the Hungarian military.

Another problem was the changed patterns of information sharing within and among military organizations. In the past, organizations have had formal systems of record keeping and of responsibilities of information distribution. Much of the information was contained within an organization in a formal hierarchy. However, the spread of personally held information was largely dictated by social acquaintance and physical proximity. As a result, poorly connected or distant employees have been unable to take advantage of the expertise and experience that existed within the organization. On the other hand, the data were transferred in the form of formal reports through the inert bureaucratic system with low accuracy. In the past, without any functioning military planning system, these data could meet the requirement of bureaucratic needs and satisfy the military management.

The largest problem appeared when attempting to provide data for the DRMM system in the Hungarian military.

In the Hungarian military in the early 1990's, different organizations started to modernize their data collecting and storing systems. These efforts were separate, not coordinated and mostly based on personal initiatives of people who were interested in computer technology, and purchased a personal computer for their own purposes and acquired basic computer knowledge through self-education. As a result, the information processed and stored by using IT was incompatible, unreliable, and the senior management did not consider any perspectives to this method. The information flow among the military organizations continued to operate using an old paper-deliver system.

In the units where data did exist, they were not always centrally accessible. The old reporting system was not able to satisfy the newly emerged organizational needs. The military management had been implementing a new, but still paper-based reporting system in the middle of the 1990's, when the DRMM implementation started. As a result of the already undertaken steps at reorganization of the Hungarian military structure, new structural levels appeared. These new levels often did not fit o the new structure because of the lack of a centralized vision and reorganization concepts. So, the different structural levels directly requested the units to provide data in a large variety of forms of reports, and put an additional burden on the subordinated management and confused them. Lack of staff continuity also affected the availability of data.

Units were also not always easily able to provide accurate data on topics which were not seen as falling within their sphere of interest nor do they always have the human and financial resources available to prepare compounded data sets, such as those that were required to accurately analyze and process data. Producing compound data sets and providing accurate data about the assets, personnel, readiness, and mission capability was in fact a problem for the management of units. The organizations often did not have the staff, did not have the knowledge and did not have much experience with local data collection.

C. POSSIBLE SOLUTIONS

Summarizing the reasons for the failure of the implementation of the Defense Resource Management Model, it is apparent that they can be divided into the following three major groups:

- There was an inefficient data collecting and reporting system in the Hungarian Defense Forces

- The reasons were embedded in the Hungarian military environment: Societal, traditional, cultural, psychological and economical factors
- The linear approach to the problem solving of American software designer experts and their inability to recognize the complexity of Hungarian military environment

Using the outcomes of analyzing the complex situation, this thesis provides possible solutions to overcome the described problems and suggests actions to take in order to avoid the similar implementation failures and waste of resources from aid programs in the future.

1. Inefficient Data Collecting and Reporting System

The Defense Resource Management Model (DRMM), as well as other data processing systems, needs correct and exact input information. Without precise data on the input, the output information would be false, and the defense resource analyses become useless. Before implementing the DRMM, it is necessary to establish a properly functioning data collecting and reporting system. It requires human resources and adequately planned and built Information Technology system, for example, a unified database.

One of the possible solutions is to build a centrally operated and maintained database, which includes the overall and timely information about the military system. Possibly the most important problem to solve is to define what the stored data means. This work is often more complicated than the technical construction of a database. According to the needs of the defense resource planning process, the gathered data should indicate the major military categories, such as mission capability of the units and assets in particular, human resources, stockpiles, maintenance capability and financial resources.

The design of any database system should follow the normal relational database design requirements:

- Each piece of information should be entered and updated in only one place in the system
- The table keys should identify each table record in a unique way
- Information should not be unnecessarily repeated
- Basic keys should reflect reality and not be "invented"

All the data processing departments at different structural levels of the military hierarchy should have the same structure, the same equipment and should operate by the same regulations and directives. A possible organizational structure for the Data collecting and processing departments is shown in Figure 6.

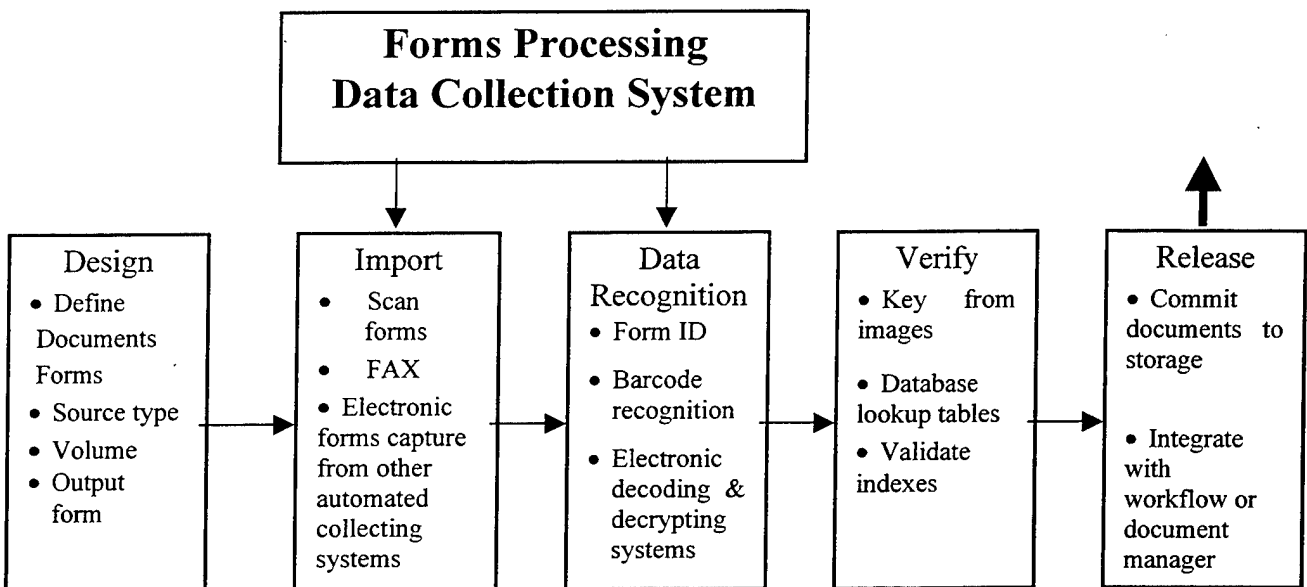


Figure 6. Multi-user Information Collection Systems.

The top-level leadership of the national defense organizations or MOD or DOD, must issue a powerful regulation in order to establish an overall data collecting and reporting system. The regulation should clearly define the rights and responsibilities of organizations and individuals dealing with data collecting, data processing and reporting.

The regulation should also determine the access or restrictions to the data of different commanding levels and individuals. There must be explicitly listed the kinds of data for each commanding level and unit that can be used for operational and planning purposes. Collection of additional data to the list must be prohibited. The enforcement of this order should be strictly controlled.

2. Societal, Traditional, Psychological and Economical Factors

The second major area that needs to be prepared before the implementation of a strategic plan is the environment. Before the implementation of an IT tool, especially one designed for the military, it is necessary to examine the military environment. By exploring the organization's external and internal environment, it is possible to identify the strengths, weaknesses, opportunities and threats (SWOT) the organization faces.

Implementation of the Defense Resource Management Model can be seen as a change in the organization's strategy. The strategic issue is to improve the nation's military planning procedure, to make it effective, efficient, NATO-compatible, suitable for civil control and transparent to the public.

Strategic issues typically concerned how the organization (what is inside) relates to the larger environment it inhabits (what is outside). Every effective strategy will take advantage of strengths and opportunities at the same time it minimizes or overcomes the weaknesses and threats.¹⁴

In the Hungarian case, the implementation could not reach its strategic goal. To identify the reasons for that, are embedded in the Hungarian military and societal environment. This thesis recommends using the Roberts' Organizational Systems

¹⁴John M. Bryson, *Strategic Planning for Nonprofit Organizations* 1995, p. 83.

Framework¹⁵ as a solution to this problem. See Figure 7. This model describes how the organization works in order to obtain their strategic goals, and offers a methodology to intervene if the outcomes are not satisfactory.

As earlier shown in this thesis, the Hungarian DRMM implementation case was used as an example for these analyses, and the Design Factors and the System Direction were appropriately set. However, this thesis suggests that the DRMM department must be an independent organization under civilian control, although the DRMM team members have to have a military background or experience. If the appropriate workforce is available in the private sector, it is affordable to outsource the Defense Resource Management Modeling to a private contractor.

According to the model, the reasons for the failure have to be related to the environment context and to the culture.

3. Environmental Context

Among the factors along with the environment, the research found that political factors are one of the causes for the failure of implementing the DRMM.

Senior management must be committed to the strategic goals and must be involved in the process. Without the willingness of senior management to implement changes, the strategic goals cannot be reached. In the Hungarian case, the political will to implement changes in the defense resource management appeared as a result of influences from the outside environment, and without the commitment of the senior management to the strategic goals.

¹⁵ Nancy Roberts, Organizational Systems Framework, NPS 2001.

Organizational Systems Framework

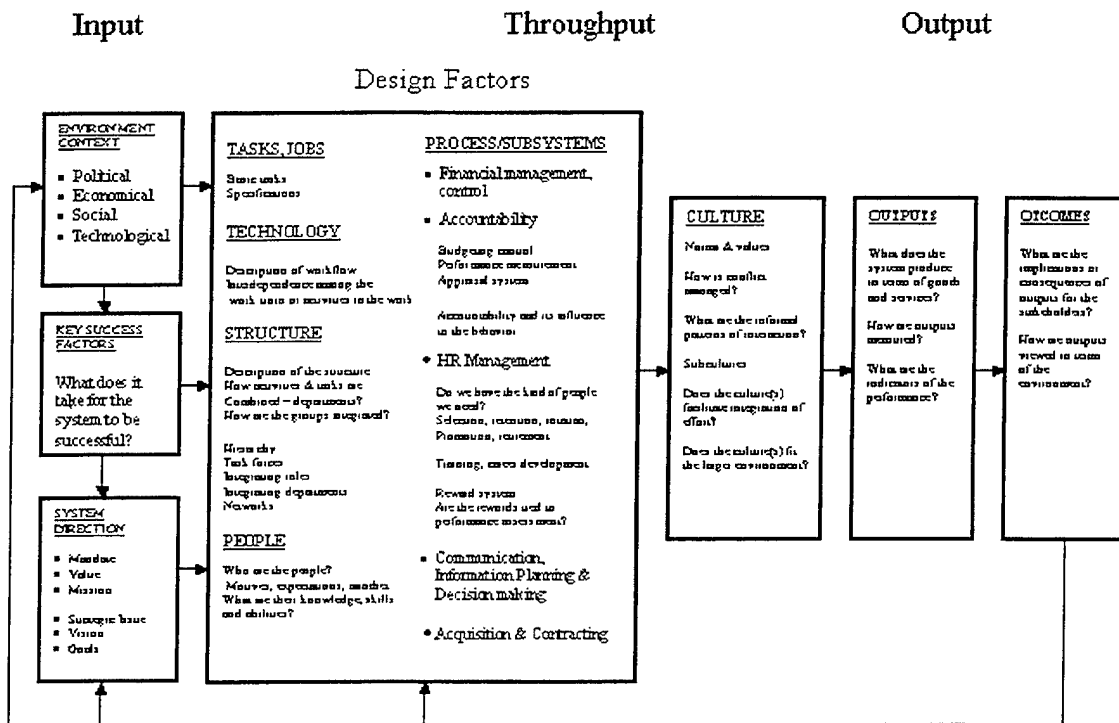


Figure 7. Organizational Systems Framework.

The heart of the problem is in senior and middle management support. The resource management processes of any organization are established from the top down. Change is also only successfully instituted from the top down. It is likely that DRMM fails to be incorporated where the desire to use the type of resource management that DRMM supports is not backed at the highest levels of the organization and then promoted and supported in each successive lower layer of management.¹⁶

¹⁶ Jim Wilson (Assistant Director Cost Analysis and Research Division Institute for Defense Analyses DoD), letter to the author in 2001.

The Planning Programming Budgeting System (PPBS) only works as a top-down commitment based on a senior management vision of a new way to manage the allocation of resources. Forcing that commitment and vision through each successive layer of management is critical to implementation. PPBS does not take like a virus spreading from low level infection to the rest of the organization. To make it happen, there must be a system of accountability to the highest levels to report on implementation progress. The people put their work emphasis on the things that their bosses are actively holding them accountable for. Without top level, continuing accountability, changes in something as fundamental as instituting a new resource management philosophy do not happen.¹⁷

4. Culture

Presumably, the culture inside the organization and the culture of the society are the main drivers for strategic management. As the Organizational Systems Framework shows, the culture as a filter stands between the design factors and the outputs and outcomes. In these analyses, the societal, traditional, psychological and economical factors subordinated to the culture are considered. How these factors interrelate to the culture and influence the behavior of the people are also examined.

Before the implementation–intervention in the strategy starts, it is important to analyze and understand the cultural environment. Without deep and careful analyses of cultural backgrounds a factor inside the implementation process that can generate significant uncertainty is not addressed. As Bryson says:

Because an organization's culture can place severe limits on its ability to perceive the strengths, weaknesses, opportunities and threats (SWOT) as

¹⁷ Jim Wilson (Assistant Director Cost Analysis and Research Division Institute for Defense Analyses DoD), letter to the author in 2001.

well as constraint possible strategic responses, an analyzes of the culture may be particularly useful.¹⁸

The corporate culture is a part of the culture of the society, which permanently interrelates with each other. The corporate culture through the societal culture reflects the influence of traditions, of economy and derives the mindset of the people and the so called workplace psychology. Wilson demonstrates in his letter, how the workplace psychology works, and how the mindset of the people could affect their behavior in the implementation of a strategic plan:¹⁹

PPBS involves a re-distribution of information and power in an organization. Even if no one loses power, power is shared because information is shared. Those who previously could "direct" resource uses where they wanted to, now find that they cannot make as many of these directives unilaterally. For example, senior budget personnel resist the DRMM as strongly as anyone in the organization because they would lose a large measure of control over where resources are used.

PPBS results in increased accountability for resource use and people resist being accountable.

The culture as a significant driver of the implementation success should be analyzed to learn and counted on in the strategic planning process. To be familiar with the local corporal culture helps to understand the needs of the environment of the implementation, and makes the strengths, weaknesses, opportunities and threats (SWOT) the implementation faces more predictable. It is not realistic to alter the given culture of

¹⁸ Bryson, Strategic Planning for Nonprofit Organizations 1995 p. 102.

¹⁹ Jim Wilson (Assistant Director Cost Analysis and Research Division Institute for Defense Analyses DoD), letter to the author in 2001.

the environment. It can, however, be influenced, and partly changed for a long period of time. Any attempt to intervene or alter the culture could generate a strong negative affect on the success of the strategic management.

5. The Linear Approach to Problem Solving of American Software Designer Experts

Every system operates well in its own environment. The environment creates the system and the system cannot exist without its roots. A system be it political, organizational or technical cannot be linearly imported to a different place without reproducing its original environment. The technical environment could be reproduced easily, but it more difficult in the case of a transferring political or organizational system. Also, the people's mindset reflects its own mental and cultural background in the world.

The people are inclined to expect or assume to meet mental, cultural and organizational systems similar to which they are accustomed. It comes from human nature and it does not cause any confusion in people's everyday life. On the other hand, these phenomena can generate problems if this mindset affects international actions and reactions.

The DRMM designer team consists of high-ranking retired military officers and DoD officials with a high level of knowledge and great military experience. The DRMM software designers made an excellent product and during the implementation process they did their best. The only thing they failed to learn about was the military environment in which their product was supposed to be implemented. The program structure sometimes reflected the designers' mindset assuming a properly functioning military bureaucracy in the background. If the designers would have known more about the nature of the machine bureaucracy of the former socialist countries, they could have shaped the

DRMM to be more acceptable to senior military management and more easy understood by military personnel.

This thesis suggests careful learning about all the components of the environment where the strategic issue is supposed to be implemented before the tasks are defined and the structure and the technology are set.

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VI. CONCLUSIONS

A. LESSONS LEARNED

Foreign aid belongs to the taxpayers, and the people in charge of its spending are responsible for the effectiveness of the projects. The aid is useful for the country helped and also for the country giving the aid if the projects reach their strategic goals. Otherwise, the goals turn into a waste of resources.

B. WHAT SHOULD BE DONE TO AVOID THIS SITUATION IN THE FUTURE

The appropriate organizations have to prepare the aid projects more carefully in order to obtain the strategic goals. The planners have to employ strategic management experts to discuss the issues and set the strategic goals.

The environment of implementation has to be carefully examined before the action starts. Using the results of analyses, the expert groups have to find the answers to the following questions:

- Does the recipient country really need the kind of help the project is about?
- Does the recipient country accept the project?
- Who are the people we are dealing with?
- Is the leadership of the recipient country willing to cooperate in the implementation?
- What are the opposing forces?
- What are the reasons for the opposition?
- Which cultural factors can generate opposition?
- How could the cultural constraints be handled?
- Is the project prepared according to the needs of the recipient country?
- What amendments should be done to the project before it starts?

- What is the probability of obtaining successful outcomes?
- According to answers to the previous questions, is it reasonable to start the project or not?

C. SUMMARY OF RESPONSES TO THE RESEARCH QUESTIONS

This thesis analyzed the political, organizational and cultural barriers to the implementation of the U.S. Defense Resource Management Model (DRMM) by the Ministry of Defense in Hungary between 1995 and 2000. The thesis found the following reasons for these difficulties:

- There was inefficient data collecting and reporting system in the Hungarian Defense Forces
- The reasons, which were embedded in the Hungarian military environment, are societal, traditional, cultural, psychological and economical factors
- The linear approach to problem solving by the American software designer experts, and their inability to recognize the complexity of the Hungarian military environment

The thesis suggests the following possible solutions to avoid these difficulties of software and systems implementation in the future:

- Before implementing the DRMM, it is necessary to build a properly functioning data collecting and reporting system, and create a unified database
- The thesis suggests that the DRMM department must be an independent organization under civilian control, although the DRMM team members have to have a military background or experience. It is possible to outsource the operation of the Defense Resource Management Model to a private contractor
- Senior management must be committed to the strategic goals and must be involved in the process
- Before the implementation starts it is necessary to analyze and understand the cultural environment

This thesis suggests that it is necessary to learn carefully all components of the environment for the future implementation of a project, prior to the tasks being defined and the structure and the technology are set.

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